

**Amendments to the Abstract:**

Please amend the abstract, pages 64-65, by replacing it with the following amended Abstract.

**ABSTRACT**

**FACILITATING PROTEIN FOLDING AND SOLUBILITY  
BY USE OF PEPTIDE EXTENSIONS**

~~Disclosed herein are~~ The present invention comprises novel compositions and methods for enhancing the solubility and promoting the adoption of native folding conformation of ~~a proteins~~ or polypeptides of interest expressed by recombinant DNA techniques. In one ~~One~~ embodiment of the present invention ~~relates to a~~ the protein or polypeptide of interest is modified through either a carboxyl- or an amino-terminal peptide extension, so as to promote folding within host cells. ~~Another~~ In another embodiment the peptide-extended protein or polypeptide of interest is recovered in good 10 yield from inclusion bodies by ~~relates to a method for enhancing the *in vitro* renaturation of a protein or polypeptide of interest expressed by recombinant DNA techniques, in circumstances where, following expression, a substantial percentage of the expressed protein or polypeptide of interest is localized within inclusion bodies. Yet another embodiment of the~~ The present invention relates to an further includes expression vectors comprising a nucleic acid sequence encoding a peptide extension and a multiple cloning site for inserting, in-frame with the peptide extension sequence, a nucleic acid sequence encoding a protein or polypeptide of interest. The peptide extensions of the present

invention comprise ~~different amino acid sequences and intrinsic net charges, depending~~  
20 ~~upon the specific species. The total length of the peptide extensions comprise~~ peptides of  
61 amino acid residues or less, ~~whereas the~~ said peptides having net intrinsic charges of  
~~the peptide extensions range from about -20 to about -2 and or~~ from about -20 to about  
+2, for peptide extensions fused to carboxyl ~~and or~~ amino-termini, respectively. ~~Primary~~  
~~objectives of the present invention include: (i) enhancing the solubility, while~~  
~~concomitantly optimizing the folding, of proteins of interest into their biologically active~~  
~~conformations in host cells; (ii) characterizing the features of the carboxyl and amino-~~  
~~terminal peptide extension that are necessary for their protein folding activity within host~~  
~~cells; (iii) determining whether these carboxyl and amino terminal peptide extensions~~  
~~can promote renaturation of mis folded proteins in vitro; and (iv) identifying protein~~  
30 ~~characteristics which determine behavior of the protein as a substrate for the peptide~~  
~~extension mediated folding described herein.~~